MYRIAPODOLOGICA

Virginia Museum of Natural History

Vol. 5, No. 12 ISSN 0163-5395 December 31, 1998

A new genus of spirostreptid millipeds from Central America (Spirostreptidae)

By Richard L. Hoffman

ABSTRACT

Three species of Central American spirostreptids described by R. V. Chamberlin (1922) in the genus *Gymnostreptus* (*G. laetus, G. pacificus, and G. vagans*) are transferred into the new genus *Mayastreptus* (type species *G. vagans*) on the basis on major differences from Brazilian gymnostreptids in mouthparts, first male legs, and gonopods.

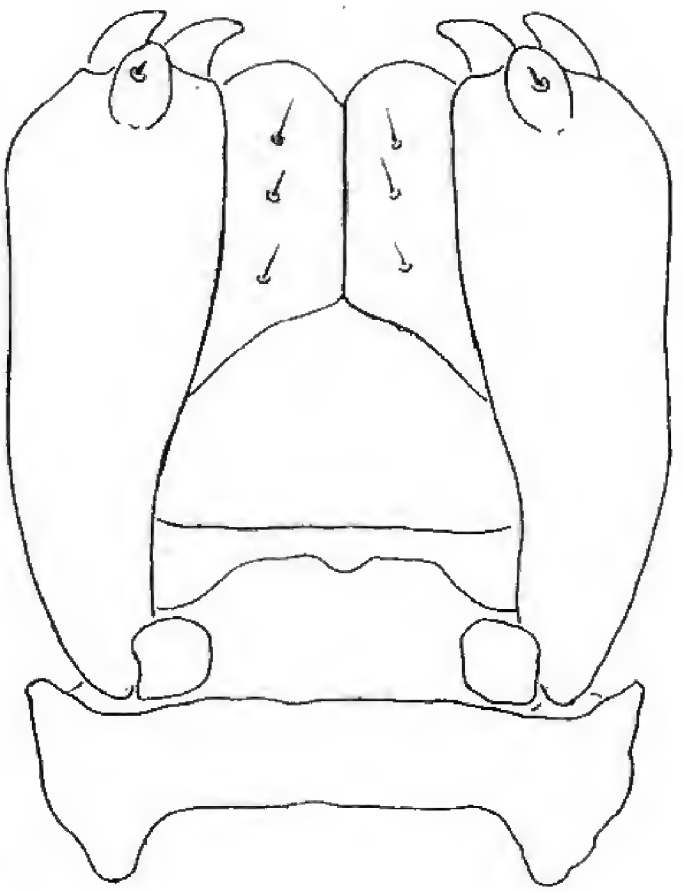
TAXONOMY

Several years ago, when investigating the status of some Brazilian spirostreptids provisionally refered to *Gymnostreptus*, I became tangentially curious about the identity of some supposedly congeneric species described by R. V. Chamberlin (1922) from Costa Rica and Guatemala. In particular, the apparent absence of this genus from most of northern South America implied a major geographic lacuna in the generic range that invited consideration. The examination of material identifiable as *Gymnostreptus vagans*, one of the original Chamberlian species, showed that despite a superficial similarity in gonopod structure (e.g., a simple, unbranched telopodite) with that of Brasilian species, most other characters contraindicated any close relationship.

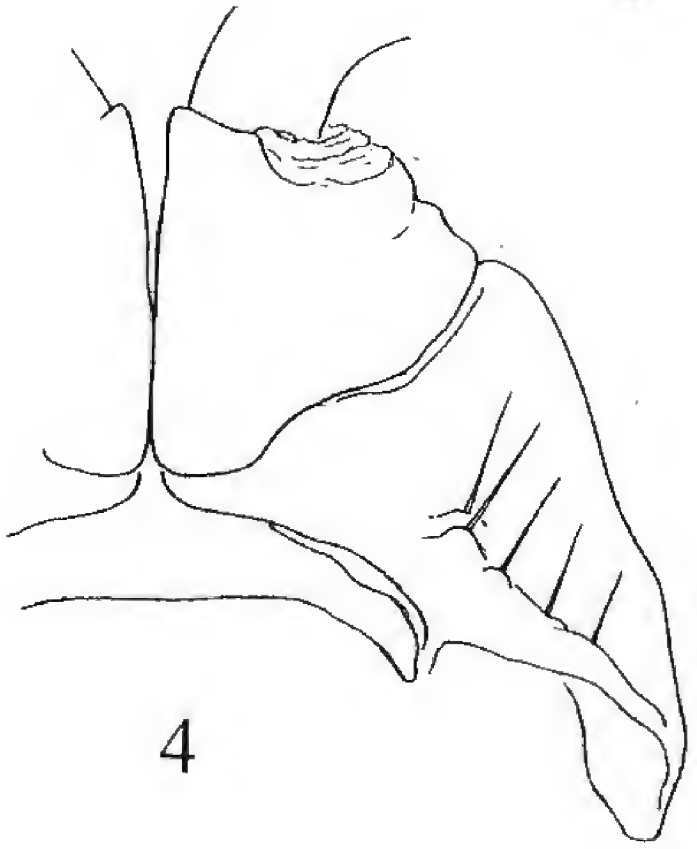
More recently, compilation of a list of the Diplopoda of North and Middle America compelled more serious inquiry into this subject, the results of which are set forth in the following pages. Isolation of the Central American taxa into a separate genus appears to be the most reasonable disposition of the problem, with the assumption that they represent local derivation from an initial occupation of that region by species of *Orthoporus*.

Scanned with permission by Virginia Tech Insect Systematics Group 2014 (www.jointedlegs.org)

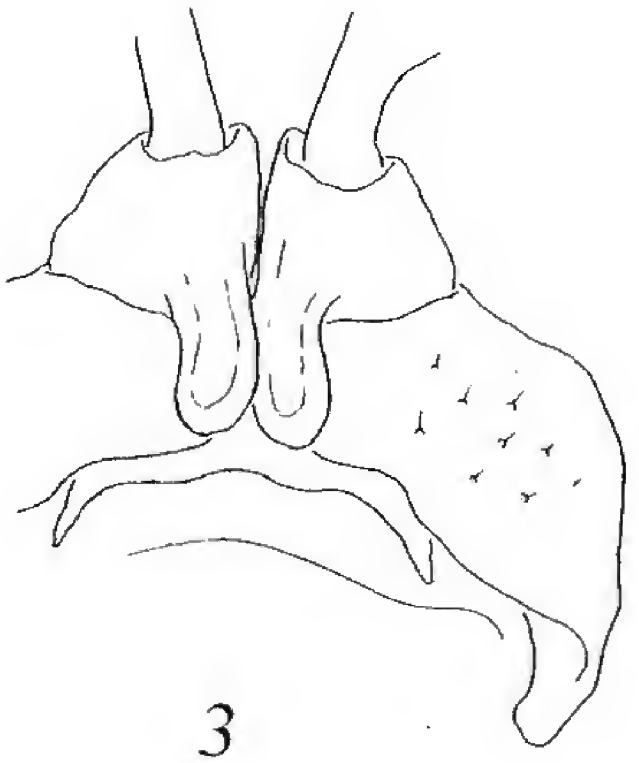
1



2



4



3

Figs. 1-3. *Mayastreptus vagans*, structural details. 1, mandibular psectromere, posterior aspect, showing the two large teeth of the sectile sclerite. 2, gnathochilarium, showing medial absence of praebasilar plate and distal displacement of the stipital convexities. Stipital marginal setae not shown. 3, coxae and leg bases of first legs of male, oral aspect. 4. *Gymnostreptus ventralis*, basal elements of first male legs, oral aspect.

Mayastreptus, new genus

Name: A neologism referring to one of the dominant Indian people of northern Central America.

Type species: *Gymnostreptus vagans* Chamberlin, 1922.

Diagnosis: Sectile sclerite of mandible (Fig. 1) with two large, elongated subequal "teeth" and a small marginal lobe subtending the lower, the sectile edge otherwise unmodified; main body of psectromere relatively short for a spirostreptid; molar surface with a deep transverse apical groove. Pectinate lamellae closely appressed and difficult to count, but apparently about 15. Prebasilar sclerite of gnathochilarium (Fig. 2) represented in males only by the lateralmost ends, resulting in a deep submental cavity for accomodation of the enlarged prefemoral lobes of the 1st pair of legs; latter elongate and cylindrical, medially in contact for much of their length and projecting anteriad (Fig. 3); hypostome sclerite of normal appearance..

Gonopods (Fig. 5). Gonosternum small, transverse; paracoxites enlarged, subglobose, attached to coxal region by flexible joint; anterior colpocoxal fold simple, apically with a few scattered setae, posterior fold only slightly longer than anterior, produced laterad as a small narrow projection. Telopodite in situ held on anterior side of coxites, without prefemoral spine ("Kniedorn"); area of torsion elongated, broadened, extending proximad to level of paracoxites, torsion only 180° or less, not localized as a tight 360° turn. Distal third of telopodite gradually attenuated, unbranched, with a small subterminal acute process (Fig. 6).

Body segments without notable modifications. Sensory pit of 5th antennomere unusually small. Coxal sockets of posterior legpairs closed behind by ends of pleuroterga. Legs of males with postfemoral and tibial pads present back nearly to posterior end of body.

Remarks: In the several species of *Gymnostreptus* known from Brazil and Paraguay, the prebasilar sclerite is not reduced medially and the prefemora of the first male legs are only minimally produced into short low basal lobes (compare Figs. 3 and 4). Actually the gnathochilarium and first male legs of *M. vagans* are similar to the corresponding parts in *Orthoporus*, and it is not impossible that *Mayastreptus* represents a local derivation from that genus by reduction of the apical calyx of the gonotelopodite, a possibility enhanced by geographic considerations (*Gymnostreptus* in the strict sense being unknown north of the Amazon basin).

Species: Three, endemic in Guatemala, El Salvador, and Costa Rica.

Mayastreptus confragosus (Karsch), new combination

Spirostreptus (Nodopyge) confragosus Karsch, 1881, Zeitschr. Naturw., 54: 44.

♀ holotype (ZMB) from "Costa Rica" without further data.

Spirostreptus (Scaphiostreptus) confragosus: Brolemann, 1905, Soc. ent. France, 74: 367, text fig. VII, pl. 9, fig. 20, pl. 10, fig. 21.

Orthoporus confragosus: Pocock, 1909, Biol. Centr.-Amer., Diplop., p. 101.

Gymnostreptus pacificus Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 14, pl. 7, figs. 2-4. ♂ holotype (USNM) from Santo Domingo de San Mateo, Prov. San José, Costa Rica. **New synonymy!**

Epistreptus (Microtrullius) pacificus: Attems, 1950, Ann. Naturh. Mus. Wien, 57: 218.

Although Brolemann was probably correct in identifying his material from San José with the species described by Karsch, there will always be an element of uncertainty until females can be compared directly with the type specimen in Berlin. For this reason I selected the nominal species *vagans* as type of *Mayastreptus*. There seems to be no doubt, however, that the name *pacificus* is strictly conspecific with what Brolemann called *confragosus*.

Mayastreptus laetus (Chamberlin), new combination

Gymnostreptus laetus Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 13, pl. 6, figs. 7-9. ♂ holotype (USNM) from Joyabaj, Prov. Quiche, Guatemala.

Mayastreptus vagans (Chamberlin), new combination
Figs. 1-3, 5, 6

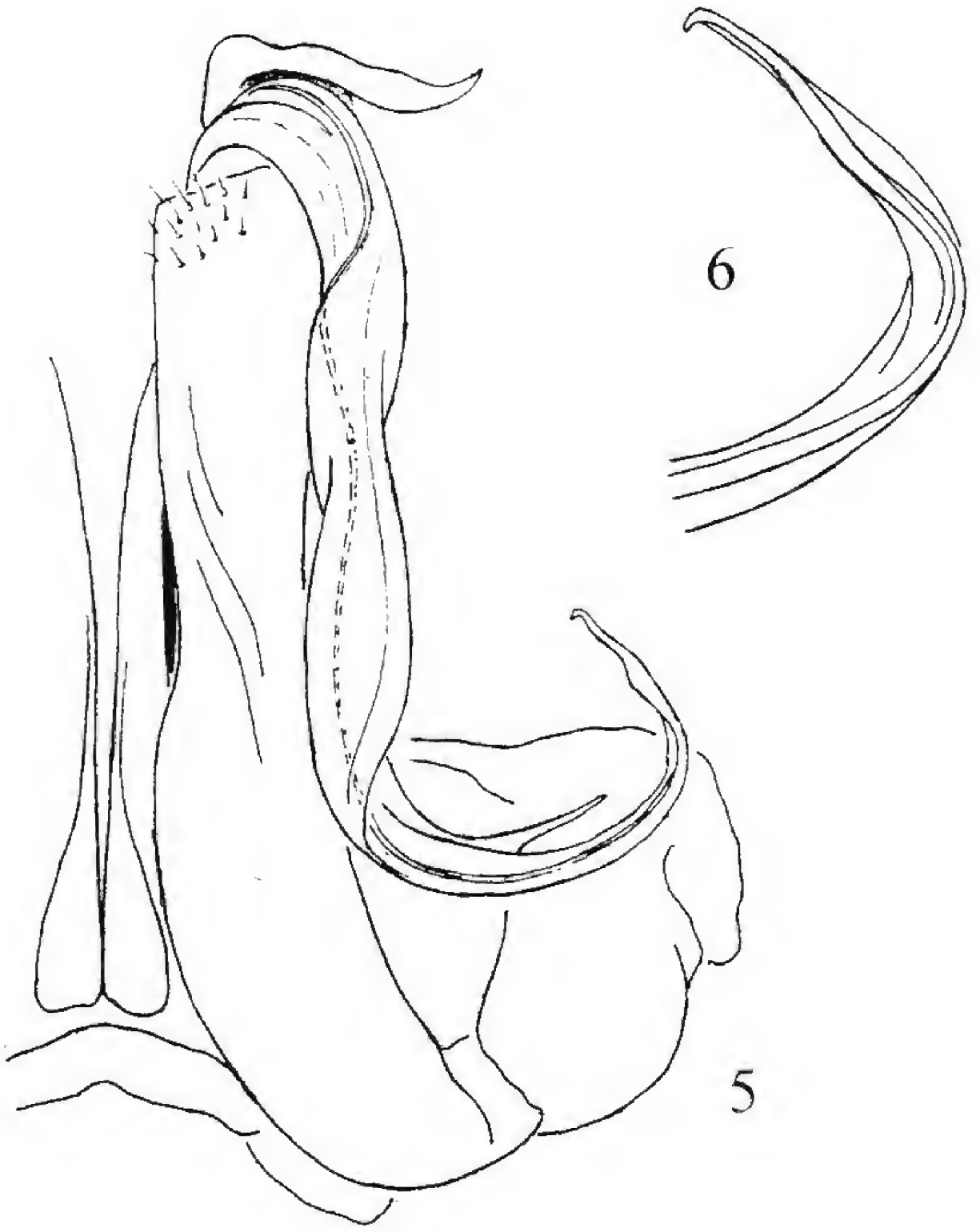
Gymnostreptus vagans Chamberlin, 1922, Proc. U. S. Nat. Mus., 60(8): 13, pl. 6, fig. 10; pl. 7, fig. 1. ♂ holotype (USNM) from "Candelaria Rocks, Scamay Estuary", Guatemala. According to Shear (1977: 341) "Scamay" is a misspelling of "Seamay", the name of three villages near Senahú, Dept. Alta Verapaz.

Epistreptus (Microtrullius) vagans: Attems, 1950, Ann. Naturh. Mus. Wien, 57: 218.

Epistreptus (Microtrullius) vagans + *pacificus*: Kraus, 1954, Senckenb. biol. 35: 340, figs. 84-86.

Material: Males and females (VMNH) from Finca Cabañas at La Tinta, 140 m, Dept. Alta Verapaz, Guatemala, G. Kramer leg. 24 April 1976.

Details of mouthparts and sexual characters are discussed above under the generic heading and shown in the accompanying figures. Routine peripheral body structure is adequately accounted in the original description.



Figs. 5, 6. *Mayastreptus vagans*, gonopods. 5, right gonopods, anterior aspect. 6, distal end of telopodite, enlarged.

Kraus (1954) may have been correct to synonymize *pacificus* with *vagans*, although the gonopod illustration that he gave for Salvadorian material suggests differences at some taxonomic level (as does the still extensive lacuna in the generic range between Guatemala and Costa Rica). If the two names cited are eventually proven to be synonyms, then both must be subsumed under *confragosus*.

LITERATURE CITED

Attems, C. 1950. Über Spirostreptiden. Ann. Naturh. Mus. Wien, 57: 179-257, figs. 1-92.

Brolemann, H. W. 1905. Myriapodes de Costa Rica. Ann. Soc. Ent. France, 74: 337-380, figs. 1-28.

Chamberlin, R. V. 1922. The millipeds of Central America. Proc. U. S. Nat. Mus., 60(8): 1-75, pls. 1-25.

Hoffman, R. L. 1997. Studies on spirostreptoid millipeds. XX. The taxonomic status of three poorly-known species of *Gymnostreptus* from Brasil and Paraguay (Spirostreptidae). Myriapodologica,4: 59-83, figs. 1-17.

Karsch, F. 1881. Neue Juliden des Berliner Museums, als Prodromus einer Juliden-Monographie. Zeitschr. Naturw., 54: 1-79.

Kraus, O., 1954. Myriapoden aus El Salvador. Senckenb. biol., 35: 293-349, figs. 1-97.

Shear, W. A. 1977. Millipeds (Diplopoda) from caves in Mexico, Belize and Guatemala. III. Acc. Naz. Lincei, Prob. Att. Sci. Cult.(Miss. ed Esplor.), 171(3): 235-265, figs. 1-56.

Address of the author:

Dr. Richard L. Hoffman
Virginia Museum of Natural History
Martinsville, Virginia 24112, USA